

2006, channels other than those listed in paragraphs (b)(1) and (c)(1), may be planned and assigned in base/mobile pairs having a different separation, where necessary because 30 MHz base/mobile pairing is precluded by the presence of one or more co-channel or adjacent channel TV/DTV broadcast stations.

§ 90.533 Transmitting sites near the U.S./Canada or U.S./Mexico border.

This section applies to each license to operate one or more public safety transmitters in the 764–776 MHz and 794–806 MHz bands, at a location or locations North of Line A (see § 90.7) or within 120 kilometers (75 miles) of the U.S.-Mexico border, until such time as agreements between the government of the United States and the government of Canada or the government of the United States and the government of Mexico, as applicable, become effective governing border area non-broadcast use of these bands. Public safety licenses are granted subject to the following conditions:

(a) Operation of public safety transmitters must not cause harmful interference to the reception of television broadcasts transmitted by UHF TV broadcast stations located in Canada or Mexico. In addition, public safety base, control, and mobile transmitters must comply with the interference protection criteria in § 90.545 for TV/DTV stations in Canada and Mexico.

(b) Public safety facilities must accept any interference that may be caused by operations of UHF television broadcast transmitters in Canada and Mexico.

(c) Conditions may be added during the term of the license, if required by the terms of international agreements between the government of the United States and the government of Canada or the government of the United States and the government of Mexico, as applicable, regarding non-broadcast use of the 764–776 MHz and 794–806 MHz bands.

§ 90.535 Modulation and spectrum usage efficiency requirements.

Transmitters designed to operate in 764–776 MHz and 794–806 MHz frequency

bands must meet the following modulation standards:

(a) All transmitters in the 764–776 MHz and 794–806 MHz frequency bands must use digital modulation. Mobile and portable transmitters may have analog modulation capability only as a secondary mode in addition to its primary digital mode.

(b) Transmitters designed to operate in the narrowband segment using digital modulation must be capable of maintaining a minimum data rate of 4.8 kbps per 6.25 kHz of bandwidth.

(c) Transmitters designed to operate in the wideband segment using digital modulation must be capable of maintaining a minimum data rate of 384 kbps per 150 kHz of bandwidth.

[63 FR 58651, Nov. 2, 1998, as amended at 65 FR 53645, Sept. 5, 2000]

EFFECTIVE DATE NOTE: At 65 FR 53645, Sept. 5, 2000, § 90.535 was amended by revising paragraphs (b) and (c), effective Nov. 6, 2000. For the convenience of the reader, the superseded text is set forth as follows:

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(b) Transmitters designed to operate in the narrowband segment using digital modulation must be capable of maintaining a data throughput of not less than 4.8 kbps in a 6.25 kHz bandwidth.

(c) Transmitters designed to operate in the wideband segment using digital modulation must be capable of maintaining a data throughput of not less than 384 kbps in a 150 kHz bandwidth.

§ 90.537 Trunking requirement.

All systems using six or more narrowband channels in the 764–776 MHz and 794–806 MHz frequency bands must be trunked systems, except for those using the designated nationwide interoperability channels.

§ 90.539 Frequency stability.

Transmitters designed to operate in 764–776 MHz and 794–806 MHz frequency bands must meet the frequency stability requirements in this section.

(a) Mobile, portable and control transmitters must normally use automatic frequency control (AFC) to lock on to the base station signal.

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(b) The frequency stability of base transmitters operating in the narrowband segment must be 100 parts per billion or better.

(c) The frequency stability of mobile, portable, and control transmitters operating in the narrowband segment must be 400 parts per billion or better when AFC is locked to the base station. When AFC is not locked to the base station, the frequency stability must be at least 1.0 ppm for 6.25 kHz, 1.5 ppm for 12.5 kHz (2 channel aggregate), and 2.5 ppm for 25 kHz (4 channel aggregate).

(d) The frequency stability of base transmitters operating in the wideband segment must be 1 part per million or better.

(e) The frequency stability of mobile, portable and control transmitters operating in the wideband segment must be 1.25 parts per million or better when AFC is locked to a base station, and 5 parts per million or better when AFC is not locked.

[63 FR 58651, Nov. 2, 1998, as amended at 65 FR 53646, Sept. 5, 2000]

EFFECTIVE DATE NOTE: At 65 FR 53646, Sept. 5, 2000, §90.539 was amended by revising paragraph (c), effective Nov. 6, 2000. For the convenience of the reader, the superseded text is set forth as follows:

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(c) The frequency stability of mobile, portable and control transmitters operating in the narrowband segment must be 400 parts per billion or better when AFC is locked to a base station, and 2.5 parts per million or better when AFC is not locked.

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§ 90.541 Transmitting power limits.

The transmitting power of base, mobile, portable and control stations operating in the 764–776 MHz and 794–806

MHz frequency bands must not exceed the maximum limits in this section, and must also comply with any applicable effective radiated power limits in §90.545.

(a) The transmitting power of base transmitters must not exceed the limits given in paragraphs (a), (b) and (c) of §90.635.

(b) The transmitter output power of mobile and control transmitters must not exceed 30 Watts.

(c) The transmitter output power of portable (hand-held) transmitters must not exceed 3 Watts.

(d) Mobile and portable transmitters must be designed to employ automatic power control.

[63 FR 58651, Nov. 2, 1998]

EFFECTIVE DATE NOTE: At 65 FR 53646, Sept. 5, 2000, §90.541 was amended by removing paragraph (d), effective Nov. 6, 2000.

§ 90.543 Emission limitations.

Transmitters designed to operate in 764–776 MHz and 794–806 MHz frequency bands must meet the emission limitations in this section.

(a) The adjacent channel coupled power (ACCP) requirements for transmitters designed for various channel sizes are shown in the following tables. Mobile station requirements apply to handheld, car mounted and control station units. The tables specify a maximum value for the ACCP relative to maximum output power as a function of the displacement from the channel center frequency. In addition, the ACCP for a mobile station transmitter at the specified frequency displacement must not exceed the value shown in the tables. For transmitters that have power control, the latter ACCP requirement can be met at maximum power reduction. In the following charts, “(s)” means a swept measurement is to be used.

6.25 KHZ MOBILE TRANSMITTER ACCP REQUIREMENTS

Offset from Center Frequency (kHz)	Measurement Bandwidth (kHz)	Maximum ACCP Relative (dBc)	Maximum ACCP Absolute (dBm)
6.25	6.25	–40	(¹)
12.5	6.25	–60	–45
18.75	6.25	–60	–45
25	6.25	–65	–50
37.5	25	–65	–50
62.5	25	–65	–50